Notice of Allowability	Application No.	Applicant(s)	
	10/621,281	OGASAWARA ET AL.	
	Examiner	Art Unit	
	John Chavis	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *papers filed 07/16/03*.

2. ☒ The allowed claim(s) is/are *1-26*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 10/03/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Victor A. Grossman on June 22, 2006. In the interview the applicant agreed to modify claims 19 and 23 with the preambles of claims 27 and 28, respectively to overcome a potential 35 USC 101 rejection. The claims are amended as follows:

Claims 27 and 28 are cancelled.

19. (Currently Amended) A computer program device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform computation steps for a program for generating a machine language code by controlling a computer to compile an executable program, said program causing said computer to perform the steps of: ~~A program for generating a machine language code by controlling a computer to compile an executable program, said program causing said computer to perform the steps of~~: a) storing information regarding whether a computation is called in a double precision mode or a single precision mode in a floating-point computation when said executable program is executed; b) when a target computation is compiled, examining a frequency with which said target computation is called in a non-default precision mode, based on the stored information, if a default precision mode is selected from at least one of the double precision mode and the single precision mode in the floating-point computation in said executable program; and c) generating and storing a specialized machine language code corresponding to the call in said non-default precision mode

with respect to said target computation based on obtained information on the frequency in which the target computation is called in said non-default precision mode.

23. (Currently Amended) A computer program device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform computation steps for a program for generating a machine language code by controlling a computer to compile an executable program, said program causing said computer to perform the steps of: ~~A program for generating a machine language code by controlling a computer to compile an executable program, said program causing said computer to perform the steps of~~: a) setting a computation precision, with respect to a target computation to be compiled, depending on a precision mode in a floating-point computation in a caller computation for calling said target computation and generating and storing a machine language code; b) examining a relation between said target computation and said caller computation; and c) generating an auxiliary code depending on the relation and adding the auxiliary code to the stored machine language code.

2. The application has also been amended as follows to overcome potential 35 USC 112 second paragraph rejections (i.e. no clear antecedent basis for "the relation" in claim 7). The modification is based on the use of the term in claim 15. The amendment is as follows:

7. (Currently Amended) A method for generating a machine language code by controlling a computer to compile a program, the method comprising the steps of: a) setting a computation precision for calling a target computation, said computation precision being based on a precision mode in a floating-point computation of a caller computation and generating and storing a machine language code; b) determining the precision mode of said target computation and said caller computation, said precision mode being a double or single precision mode; and c) generating an auxiliary code

depending on a relation between the precision mode in said target computation and the precision mode in said caller computation ~~the relation~~ and adding the auxiliary code to the stored machine language code, if the precision mode in said caller computation is different from the precision mode in said target computation.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: the closest prior reference of record is the patent to Iida (5,587,897); however, the reference fails to teach or suggest the features of optimizing by selecting a default precision mode, examining the frequency with a target precision computation is called in a non-default mode and generating and storing code to call in a non-default precision mode with respect to the target based on the frequency as indicated in claim 1. The reference also fails to teach or suggest the features of "generating an auxiliary code depending on a relation between the precision mode in said target computation and the precision mode in said caller computation and adding the auxiliary code to the stored machine language code, if the precision mode in said caller computation is different from the precision mode in said target computation", as indicated in claim 7. The prior art also does not teach or suggest the features of "optimizing by generating a first code of a target computation in a default precision mode and generating a second code of the target computation in a non-default precision mode if the target computation satisfies a predefined condition", as claimed in claim 10. The closest prior art of record also does not teach the features of "setting a computation precision with respect to a target computation and generating an auxiliary code based on a relation between the precision

mode in the target computation and the precision mode in the caller computation", as indicated in claim 15.

The prior art also does not teach or suggest the features of claim 19 of "examining the frequency with which a target computation is called in a non-default precision mode and generating and storing a specialized machine language code corresponding to the call in the non-default precision mode with respect to the target computation based on information obtained on the frequency" or the features of claim 23 of "setting a computation precision with respect to a target computation to be compiled depending on a precision mode in a floating-point computation in a caller computation for call a target computation, examining a relation between the target computation and the caller computation and generating auxiliary code depending on the relation' as specified in claim 23

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Chavis whose telephone number is (571) 272-3720. The examiner can normally be reached on M-F, 8:00am-4:30pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JC

John Chavis
Primary Examiner AU-2193